

**ABSTRACT OF THE DISCLOSURE**

A controllable switching mechanism integrally housed within a motor to optimally couple the windings of an AC motor for improved torque-speed characteristics. The switching mechanism includes a plurality of double throw switches each with a first and second closed position. The first closed position results in connecting the windings of the AC motor in one configuration for improved torque at lower rotor speeds. The second closed position results in connecting the windings of the AC motor in another configuration for improved torque at higher speeds. The winding configurations may be wye for lower speeds and delta for higher speeds. An accompanying controller, based on various inputs, optimally senses the best time for switching between configurations and sends appropriate control signals to the switching mechanism housed with the AC motor.